

AMENDMENTS TO THE CLAIMS

This Listing of Claims will replace all prior versions and listings of claims in this application.

Listing of Claims:

1. (Currently Amended) A process for the catalytic preparation of melamine by decomposition of urea over solid catalysts using a main reactor and an after-reactor, wherein a catalyst having a low Lewis acidity is used in the main reactor and a catalyst having a higher Lewis acidity is used in the after-reactor such that said catalyst used in said after-reactor has a volume-standardized surface Lewis acidity of 1.5 to 6 times that of said catalyst used in said main reactor.
2. (Previously Presented) A process as claimed in claim 1, wherein the catalyst in the main reactor comprises at least one mineral from the group consisting of aluminum oxides, silicon oxides and aluminosilicates and mixtures thereof.
3. (Previously Presented) A process as claimed in claim 1, wherein the catalyst in the main reactor is present as a fluidized bed.
4. (Previously Presented) A process as claimed in claim 3, wherein the main reactor has a conical or cylindrical configuration.
5. (Cancelled).
6. (Previously Presented) A process as claimed in claim 1, wherein the acidity of the catalyst used in the main reactor is from 0.3 to 1.8 $\mu\text{mol/g}$.
7. (Previously Presented) A process as claimed in claim 1, wherein the acidity of the catalyst used in the after-reactor is from 2 to 12 $\mu\text{mol/g}$.

8. (Previously Presented) A process as claimed in claim 1, wherein the catalyst in the after-reactor comprises from 0 to 60% by weight of SiO₂ and from 100 to 40% by weight.

9. (Previously Presented) A process as claimed in claim 1, wherein the catalyst in the after-reactor comprises at least one mineral from the group consisting of aluminum oxides, silicon oxides and aluminosilicates and mixtures of aluminum oxides, silicon oxides and/or aluminosilicates.

10. (Previously Presented) A process as claimed in claim 1, wherein the catalyst in the after-reactor is activated at from 350 to 950°C before use.

11. (Previously Presented) A process as claimed in claim 1, wherein the catalyst in the after-reactor has a BET surface area of from 150 to 400 m²/g.

12. (Previously Presented) A process as claimed in claim 1, wherein the pore volumes of the catalysts are from 0.1 to 1.5 ml/g or from 0.1 to 2.0 ml/g, (Hg porosimetry), and the pore diameters are from 10 to 100 Å.

13. (Previously Presented) A process as claimed in claim 1, wherein the residence times in the after-reactor are from 0.1 to 20 s and the space velocities over the catalyst are from 0.05 to 2 g of HNCO/g (cat) · h.

14. (Previously Presented) A process as claimed in claim 1, wherein the residence times in the main reactor are from 1 to 50 s and the space velocities over the catalyst are from 20 to 700 kg of urea/t (cat) · h.

15. (Previously Presented) A process as claimed in claim 1, wherein the reaction in the main reactor is carried out at from 350 to 450°C and a pressure of from 1 to 15 bar.

16. (Previously Presented) A process as claimed in claim 1, wherein the reaction in the after-reactor is carried out at from 350 to 500°C and a pressure of from 1 to 15 bar.

17. (Previously Presented) A process as claimed in claim 1, wherein the catalyst in the after-reactor is present as a fixed bed.

18. (Previously Presented) A process as claimed in claim 1, wherein the catalyst in the main reactor is present as a fluidized bed and that in the after-reactor is present as a fixed bed.
19. (Previously Presented) A process as claimed in claim 17, wherein the catalyst is present as monolith, hollow extrudate, star extrudate, pellets or crushed material.
20. (Previously Presented) A process as claimed in claim 2, wherein the catalyst comprises at least one mineral from the group consisting of bayerite, boehmite, gibbsite, montmorillonite, bentonite and muscovite.